UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

June 20, 2011

Mr. Thomas P. Joyce
President and Chief Nuclear Officer
PSEG Nuclear LLC-N09
P.O. Box 236
Hancocks Bridge, NJ 08038

SUBJECT: HOPE CREEK GENERATING STATION – NRC EVALUATION OF CHANGES, TESTS, OR EXPERIMENTS AND PERMANENT MODIFICATIONS TEAM INSPECTION REPORT NO. 05000354/2011007

Dear Mr. Joyce:

On May 6, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Hope Creek Generating Station. The enclosed inspection report documents the inspection results, which were discussed on May 6, 2011, with Mr. John F. Perry, Site Vice President, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. In conducting the inspection, the team reviewed selected procedures, calculations and records, observed activities, and interviewed station personnel.

Based on the results of this inspection, no findings were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system, Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

Lawrence T. Doerflein

Lawrence T. Doerflein, Chief
Engineering Branch 2
Division of Reactor Safety

Docket No.: 50-354
License No.: NPF-57

Mr. Thomas P. Joyce
President and Chief Nuclear Officer
PSEG Nuclear LLC-N09
P.O. Box 236
Hancocks Bridge, NJ 08038

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Sincerely,

/RA/

Lawrence T. Doerflein, Chief
Engineering Branch 2
Division of Reactor Safety

Docket No.: 50-354
License No.: NPF-57

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DATE	06/09/11	06/16/11	06/17/11		

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Enclosure:
Inspection Report No. 05000354/2011007
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	50-354
License No.:	NPF-57
Report No.:	05000354/2011007
Licensee:	PSEG Nuclear, LLC (PSEG)
Facility:	Hope Creek Generating Station
Location:	Hancocks Bridge, NJ
Inspection Period:	April 18 through May 6, 2011
Inspectors:	M. Balazik, Reactor Inspector, Division of Reactor Safety (DRS), Team Leader K. Young, Senior Reactor Inspector, DRS J. Schoppy, Senior Reactor Inspector, DRS
Approved By:	Lawrence T. Doerflein, Chief Engineering Branch 2 Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000354/2011007; 04/18/2011 – 05/06/2011; Hope Creek Generating Station; Engineering Specialist Plant Modifications Inspection.

This report covers a two week on-site inspection period of the evaluations of changes, tests, or experiments and permanent plant modifications. The inspection was conducted by three region based engineering inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

No findings were identified.

REPORT DETAILS

1. **REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R17 Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications (IP 71111.17)

.1 Evaluations of Changes, Tests, or Experiments (26 samples)

a. Inspection Scope

The team reviewed three safety evaluations to determine whether the changes to the facility or procedures, as described in the Updated Final Safety Analysis Report (UFSAR), had been reviewed and documented in accordance with 10 CFR 50.59 requirements. In addition, the team evaluated whether PSEG had been required to obtain NRC approval prior to implementing the changes. The team interviewed plant staff and reviewed supporting information including calculations, analyses, design change documentation, procedures, the UFSAR, the Technical Specifications (TS), and plant drawings to assess the adequacy of the safety evaluations. The team compared the safety evaluations and supporting documents to the guidance and methods provided in Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Evaluations," as endorsed by NRC Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," to determine the adequacy of the safety evaluations.

The team also reviewed a sample of twenty-three 10 CFR 50.59 screenings for which PSEG had concluded that no safety evaluation was required. These reviews were performed to assess whether PSEG's threshold for performing safety evaluations was consistent with 10 CFR 50.59. The sample included design changes, calculations, and procedure changes.

The team reviewed the safety evaluations that PSEG had performed and approved during the time period covered by this inspection (i.e., since the last modifications inspection) not previously reviewed by NRC inspectors. The screenings and applicability determinations were selected based on the safety significance, risk significance, and complexity of the change to the facility.

In addition, the team compared PSEG's administrative procedures used to control the screening, preparation, review, and approval of safety evaluations to the guidance in NEI 96-07 to determine whether those procedures adequately implemented the requirements of 10 CFR 50.59. The reviewed safety evaluations and screenings are listed in the attachment.

b. Findings

No findings were identified.

.2 Permanent Plant Modifications (11 samples)

.2.1 Service Water Strainer Structural Improvements

a. Inspection Scope

The team reviewed a modification (80097547) that implemented structural improvements to the safety-related service water (SW) strainers. The SW strainers (H1EA -1A, B, C, D -F-S09) had a history of strainer element break-through events (failure of the mesh screening when in service during heavy loading). These failures occurred when heavy grass accumulated on the strainer, and increased the differential pressure (DP) across the screen. PSEG modified the construction of the SW strainers to improve the ability of the screen to withstand these types of grassing events. Specifically, the structural improvements included the installation of an additional mid ring and additional tack welding on the mesh elements.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the SW system had not been degraded by the modification. The team interviewed engineering staff and reviewed technical evaluations associated with the modification to determine if the SW strainers and SW system would function in accordance with the design assumptions. Although PSEG implemented the modification on all four SW strainers, the team focused their review on the 'A' SW strainer. The team performed several walkdowns of the SW pump bays and control room instrumentation to independently assess PSEG's configuration control, the material condition of the SW strainers, and the relative grass loading on the SW traveling water screens. The team reviewed the associated post modification test (PMT) results and SW strainer DP trend data to verify that the strainers functioned as designed following the modification. In addition, the team reviewed several post-modification periodic preventive maintenance (PM) inspections of the SW strainer internals to assess the effectiveness of PSEG's modification and the condition of the strainers. The team also reviewed corrective action notifications (NOTF) to determine if there were reliability or performance issues that may have resulted from the modification. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.2 Reactor Building Floor Plug Hatch Hold Down Anchors Reconfiguration

a. Inspection Scope

The team reviewed a modification (80097553) that revised the anchoring configuration for the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) floor plug hatches in the reactor building (above the HPCI and RCIC pump rooms). PSEG implemented the modification in response to an updated high energy line break analysis to ensure that the floor plugs continued to function as designed during design basis accident conditions. In addition, PSEG upgraded and revised the anchoring configuration to address an adverse condition (corroded bolting) associated with the pre-existing hold down anchors.

The team reviewed the modification to verify that the design bases, licensing bases and structural integrity of the HPCI/RCIC floor plugs had not been degraded by the modification. The team reviewed calculations and technical evaluations to verify that the hold down anchors and floor plugs would function in accordance with design assumptions. The team reviewed the associated work order instructions and documentation to verify that maintenance implemented the modification as designed. The team also walked down the floor plugs and adjacent pump rooms to verify that PSEG had adequately implemented the modification, maintained configuration control, and had not impacted the operation of other safety-related structures, systems, and components (SSC) located in the vicinity. The team conducted a plant walkdown of the modification with the respective design engineer to discuss the critical design aspects and to independently verify that maintenance installed the anchors in accordance with engineering's design assumptions and associated PSEG procedural requirements. Additionally, the team reviewed the 10 CFR 50.59 screen and engineering evaluation associated with this modification. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.3 High Pressure Coolant Injection Main Pump and Booster Pump Tie Down Bolt Replacement

a. Inspection Scope

The team reviewed a modification (80097504) that replaced the HPCI main and booster pump tie down bolts. The HPCI main and booster pumps were designed to mount using dowels and ASTM (American Society for Testing and Materials) A307 mounting bolts. The dowel pins were designed to bear the horizontal anchor shear loads while the four A307 bolts, per pump, would resist the vertical lifting tension loads. However, during an extent-of-condition review (NUCR 70074025), PSEG had previously identified that the dowel pins, shown on vendor drawings and included in the seismic analysis for resisting horizontal seismic forces, were not installed in the field. PSEG's operability evaluation (DEH08-0135) for this condition had determined that the dowel pins were not required providing the correct material was used for the mounting bolts. The original A307 bolts were bearing the full horizontal shear loads in addition to vertical lifting tension loads. However, ASTM A307 material is a low carbon steel bolt and, therefore, subject to a potential torque relaxation over time which is detrimental to its shear carrying ability. In order to address this potential long-term torque relaxation issue, PSEG upgraded the A307 bolts to A325 bolts torqued for a friction type connection per American Institute of Steel Construction (AISC) requirements. The new HPCI pump anchoring system using the ASTM A325 bolts performs the same design function as the ASTM A307 bolts and dowel pins, and resolved the corrective actions identified in the associated operability evaluation.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the HPCI system had not been degraded by the tie down bolt replacement. The team reviewed calculations and technical evaluations to verify that the tie down bolts would function in accordance with design assumptions. The team reviewed the associated work order instructions and documentation to verify that maintenance implemented the modification as designed. The team reviewed the associated PMT results, HPCI pump vibration and DP trend data, and post-modification HPCI surveillance test results to verify proper operation of the HPCI system. The team walked down the HPCI main and booster pumps to verify that PSEG had adequately implemented the modification, maintained configuration control, and had not impacted the operation of other safety-related SSCs located in the vicinity. The team also reviewed corrective action NOTFs to determine if there were reliability or performance issues that may have resulted from the modification. Additionally, the team reviewed the 10 CFR 50.59 screen and engineering evaluation associated with this modification. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.4 Emergency Diesel Generator Fuel Injector Cooling Water System Removal

a. Inspection Scope

The team reviewed a modification (80083515) that removed the fuel injector cooling water system from the 'B' emergency diesel generator (EDG). The fuel injector cooling system was designed to minimize the effect of fuel varnishing on the fuel injector nozzle tips. Fuel varnishing is a particular concern for diesel engines that use a heavy fuel that must be heated to remain a liquid. The EDG vendor determined that fuel injector cooling was of marginal value for Hope Creek's diesel engines because they use a light diesel fuel. The vendor determined that the fuel used to run the EDGs does not need to be heated and the flow of fuel alone provided adequate cooling to minimize the effects of fuel varnishing. PSEG identified that this marginal valued fuel injector cooling system was the source of minor coolant leakage on all four EDGs and implemented the modification on each of the EDGs to improve EDG reliability, reduce cooling water leakage, and improve EDG availability.

The team reviewed the modification to verify that the design bases, licensing bases and performance capability of the EDG had not been degraded by the modification. The team interviewed engineering staff and reviewed technical evaluations associated with the modification to determine if the EDG and its support systems would function in accordance with the design assumptions. The team reviewed the associated work order instructions and documentation to verify that maintenance implemented the modification as designed. The team performed several walkdowns of the four EDGs to independently assess PSEG's configuration control, the material condition of the EDGs, and the integrity of the cooling water systems. In particular, the team directly observed portions of the 'A' and 'B' EDG monthly surveillances on May 2, 2011, and April 19, 2011, respectively, to assess the cooling water system integrity and performance during

EDG operation at rated conditions. The team also took advantage of an opportunity to directly observe the as-installed condition of 'B' EDG cylinder No. 2 fuel injector cooling plugs and lock wire, a normally inaccessible area, during an operations inspection activity that temporarily removed the cylinder head cover on May 5, 2011. The team reviewed the associated PMT results and several subsequent EDG surveillance test results, including a 24-hour run, to verify that the 'B' EDG and coolant systems functioned as designed following the modification. The team also reviewed corrective action NOTFs to determine if there were reliability or performance issues that may have resulted from the modification. Additionally, the team reviewed the 10 CFR 50.59 screen and engineering evaluation associated with this modification. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.5 Installation of New Vibration Sensors to Monitor Hope Creek Control Room Supply and Control Equipment Room Supply Heating Ventilation and Air Conditioning Units

a. Inspection Scope

The team reviewed a modification (80072712) that mounted vibration sensors on motor and fan bearings, and installed cable from the sensors through the outside wall of the air handler to a connection box mounted outside the control area heating, ventilation, and air conditioning (HVAC) equipment (Control Room Supply (CRS) units H1GK-1A-VH403 and H1GK-1B-VH403, and Control Equipment Room Supply (CERS) units H1GK-1A-VH407 and H1GK-1B-VH407). The modification was installed to enhance the ability of the operations department and maintenance technicians to periodically collect vibration data for the control area HVAC equipment without removing it from service. The modification provided an external test connection for easy interface of measuring and test equipment during vibration data gathering activities for the CRS and CERS systems.

The team conducted the review to ensure that the design bases, licensing bases, and performance capability of the CRS and CERS HVAC systems had not been adversely affected by the modification. The team reviewed PSEG's installation work orders, which included review of the adequacy of the post-modification testing results. The team interviewed the engineering staff regarding the design, installation, and testing of the new vibration sensors and associated wire harnesses to assess the adequacy of the modification. The team walked down the accessible portions of the new equipment to determine material condition of the system and ensure the vibration sensors and wire harnesses were installed in accordance with design assumptions and instructions. The team also confirmed that surveillance tests, operational procedures, and drawings had been appropriately updated to reflect the design change. The team reviewed corrective action notifications, control room HVAC system health reports, and completed surveillance procedures to determine if reliability or performance issues resulted from the modification. The 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.6 Replacement of Control Room Chiller Bearing Oil and Refrigerant Discharge Temperature Switches

a. Inspection Scope

The team reviewed a modification (80093784) that upgraded temperature switches and the associated temperature sensor on the 'A' control room chiller (H1GJ-1A-K-400). The new temperature switches (H1GJ-1GJTISH-9652A6 and H1GJ-1GJTISH-9552A2) and sensor (H1GJ-1GJTE-9652A13) are associated with measuring and indicating thrust bearing oil temperatures and refrigerant discharge temperature for the control room chiller. The upgraded components provided the same function as the previous components. The modification was implemented because the original components were unreliable and caused operational challenges with the control room chiller system.

The team conducted the review to ensure that the design bases, licensing bases, and performance capability of the 'A' control room chiller system had not been adversely affected by the modification. The team reviewed PSEG's installation work orders, which included review of the adequacy of the post-modification testing results. The team interviewed the engineering staff regarding the design, installation, calibration, and testing of the new components to assess the adequacy of the modification. The team walked down the accessible portions of the installed equipment to determine material condition of the system and ensure the temperature switches and sensors were installed in accordance with design assumptions and instructions. The team also confirmed that surveillance tests, operational procedures, and drawings had been appropriately updated to reflect the design change. The team reviewed corrective action notifications, control room chiller water system health reports, and completed surveillance procedures to determine if reliability or performance issues resulted from the modification. The 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.7 Replacement of the 'B' Emergency Diesel Generator Fuel Oil Day Tank Level Alarm Switch and Raise the Alarm Setpoint

a. Inspection Scope

The team reviewed a modification (80080423) that replaced the fuel oil day tank (FODT) level alarm switch (1JELSHL-7501B) and raised the high level alarm setpoint from 9.25 inches to 8.75 inches (measured from the top of the tank) for the 'B' EDG FODT. The FODT level alarm switch (H1JE-1JELSHL-7501B) provides high and low level alarms individually at the EDG remote control panel and provides a common trouble alarm in the main control room. The switch also provides a back-up start/stop function for the fuel oil transfer pumps in case the normal switch fails to operate the pumps. The modification was installed to correct numerous nuisance alarms and frequent switch failures during testing of the switch for the FODT. The new component and setpoint change was needed to enhance system reliability and eliminate nuisance alarms.

The team conducted the review to ensure that the design bases, licensing bases, and the performance capability of the EDG FODT system had not been adversely affected by the modification. The team reviewed PSEG's installation work orders, which included review of the adequacy of the post-modification testing results. The team interviewed the engineering staff regarding the design, installation, and testing of the new FODT level switch and revised FODT level setpoint to assess the adequacy of the modification. The team walked down the accessible portions of the new equipment to determine material condition of the system and ensure the FODT level switch was installed in accordance with design assumptions and instructions. The team also confirmed that surveillance tests, operational procedures, calibration procedures, and drawings had been appropriately updated to reflect the design change. The team reviewed corrective action notifications, the EDG system health reports, and completed surveillance procedures to determine if reliability or performance issues resulted from the modification. The 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.8 Revision to Calculation E-1.4, Hope Creek Class 1E 125 and 250 Vdc Systems: Short Circuit and Voltage Drop Studies, to Address Battery Inter-cell Resistance

a. Inspection Scope

The team reviewed a change (80095526) to calculation E-1.4 which added a basis for the inter-cell resistance values used in surveillance procedures HC.MD-ST.PJ-0002, "250 Volt Quarterly Surveillance," and HC.MD-ST.PK-0002, "125 Volt Quarterly Surveillance." The procedures provide administrative limits of battery inter-cell resistance of less than 50 micro-ohms. This value is conservative when compared to the Hope Creek's TS requirement of 150 micro-ohms. The administrative limits in the surveillance procedures allow PSEG to track, trend, and correct the battery inter-cell resistance values prior to them reaching the TS limit and becoming an operability concern. The calculation change did not impact the inter-cell resistance requirements of the TS. PSEG performed this change based on review of an issue identified at another nuclear power plant.

The team evaluated the calculation revision to confirm that the 125 and 250 Vdc batteries' design bases, licensing bases, and performance capability would not be affected by the change. The team reviewed the calculation and associated analysis to verify the assumptions used in the calculation were valid. The team reviewed associated calculations to ensure they had been updated based on the limits analyzed. The team reviewed procedures to ensure battery inter-cell resistance limits were valid, had been implemented, and were conservative when compared to the applicable TS sections. The team interviewed the engineering staff to review the calculation assumptions, applicable surveillance procedures, and calculation methodology to verify their adequacy. The team walked down the battery systems to determine material condition of the batteries. The team reviewed corrective action notifications, the 125 and 250 Vdc batteries system health reports, and completed surveillance procedures to determine if reliability or performance issues existed. The 10 CFR 50.59 screening determination associated with this revised calculation was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.2.9 Service Water Strainer Allowable Differential Pressure Analysis

a. Inspection Scope

The team reviewed a new analysis (80101059) that ensured the SW strainers (H1EA - 1A, B, C, D -F-S09) design function was maintained at elevated differential pressures. PSEG replaced the existing strainers with a more robust design due to the high differential pressures experienced during heavy grassing events. The analysis provided a stress calculation to determine the limiting differential pressure across the SW strainer. The analysis resulted in a limiting differential pressure of 101.7 pounds per square inch differential. PSEG identified within the analysis that cyclic fatigue failure of the strainers was not modeled; therefore, maintenance plans were created to replace the strainers at a six-year interval based on past data from strainer failures.

The team evaluated the analysis to ensure that the licensing bases, design bases, and performance capability of the SW system had not been adversely affected by the analysis. The team reviewed operating procedures to ensure they had been properly updated to incorporate the results of the analysis. Drawings were reviewed to verify inputs into the analysis to ensure proper modeling of the strainers. The team discussed the analysis and system design basis with both design and system engineers to assess the adequacy and results of the analysis. In addition, the team verified the SW strainer instrumentation was adequate for the increased differential pressure. The team reviewed strainer differential pressure trending data and NOTFs to ensure that the SW strainer design function was maintained and that margin existed to the limiting differential pressure. Finally, the team reviewed the strainer maintenance plan to ensure the strainer replacement is within the six-year interval. The 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

2.10 Safety and Turbine Auxiliaries Cooling System Logic Modification

a. Inspection Scope

The team reviewed a modification (80098513) that added an automatic function to close the turbine auxiliary cooling return valve (HV-2496) when the associated supply valve (HV- 2522) inadvertently closes due to failure. These valves function to isolate the non-safety related from the safety-related loads. PSEG implemented this modification to prevent a complete loss of the safety and turbine auxiliaries cooling system (STACS) due to a low expansion tank level, which occurred during past failures of HV-2522. The complete loss of STACS results in a reactor trip. The STACS expansion tank low level, which isolates the corresponding loop, is caused by system sluicing from the operating loop to the standby loop that occurs during a system load swap when HV-2522 closes.

The team's review was performed to verify that the design and licensing bases, and performance capability of the STACS had not been degraded by the modification. The team reviewed a technical evaluation and the system operating parameters, such as valve sequencing, expansion tank levels, system flowrate, and instrumentation setpoints to verify that margin existed between the low expansion tank level isolation during loop swap. In addition, post-modification testing was reviewed to verify proper operation of STACS. The team reviewed drawings, procedures, and training documents to ensure that they were properly updated. Also, the team reviewed documentation to ensure the plant simulator was updated with the modification. The team discussed the modification and design basis with design and system engineers to assess the adequacy of the modification. In addition, the 10 CFR 50.59 screening determination associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

2.11 Evaluation of Post-Loss-of-Coolant Accident Offsite and Control Room Radiological Impact

a. Inspection Scope

The team reviewed a modification (80102144) that revised calculation H-1-ZZ-MDC-1880 to incorporate a closure time reduction in numerous primary containment isolation valves along with a change in the methodology of radiological transport of main steam isolation valve leakage. The modification was implemented to support the approval of License Amendment Request H09-01 for the use of Cobalt-60 Isotope Test Assemblies in the reactor core. Calculation H-1-ZZ-MDC-1880 evaluates the post loss-of-coolant accident (LOCA) offsite and control room radiological impact. This modification also incorporated revisions to H-1-ZZ-MDC-1923 and H-1-ZZ-MDC-1927, due to the change in H-1-ZZ-MDC-1880. Calculation H-1-ZZ-MDC-1923 addresses radiological impact to areas requiring continuous occupancy during a design bases event and H-1-ZZ-MDC-1927 addresses post-LOCA mission doses to various vital areas in the plant.

The team conducted the review to assess whether the calculation revision was consistent with assumptions in the design and licensing bases. The team reviewed the associated revision to the calculations to assess their adequacy and results. The team verified the results and methodology were in accordance with 10 CFR 50.67 and Regulatory Guide 1.183. In addition, the calculations and results were discussed with the responsible engineer to verify inputs and assumptions were appropriate. The 10 CFR 50.59 safety evaluation associated with this modification was also reviewed as described in section 1R17.1 of this report. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems (IP 71152)

a. Inspection Scope

The team reviewed a sample of NOTFs associated with 10 CFR 50.59 and plant modification issues to determine whether PSEG was appropriately identifying, characterizing, and correcting problems associated with these areas, and whether the planned or completed corrective actions were appropriate. In addition, the team reviewed NOTFs written on issues identified during the inspection to verify adequate problem identification and incorporation of the problem into the corrective action system. The NOTFs reviewed are listed in the attachment.

b. Findings

No findings were identified.

4OA6 Meetings, including Exit

The team presented the inspection results to Mr. J. Perry, Site Vice President, and other members of PSEG's staff at an exit meeting on May 6, 2011. The team returned the proprietary information reviewed during the inspection and verified that this report does not contain proprietary information.

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

PSEG Personnel
O. Arroyo, Systems Engineer
R. Bhai, Design Engineer
A. Bhuta, Design Engineer
W. Bischoff, Systems Engineer
J. Boyer, Mechanical Engineering Design Manager
D. Boyle, Operations Support Manager
D. Bush, Systems Engineer
P. Duca, Regulatory Assurance Engineer
J. Duffy, Design Engineer
M. Fowler, Engineering Design Manager
A. Ghose, Design Engineer
Y. Ghotok, Systems Engineer
K. Knaide, Engineering Director
J. Moss, Design Engineer
J. Lane, Design Engineer
J. Perry, Hope Creek Site Vice President
G. Siefert, Design Engineer
B. Tarr, Design Engineer
K. Torres, Systems Engineer
K. Yearwood, Regulatory Assurance Engineer
M. Zimmerman, Design Engineer

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

10 CFR 50.59 Evaluations
50.59 Evaluation No. HC-08-172, Hope Creek Unit 1 Cycle 15 Cycle Management Fuel Change Package, Rev. 0
50.59 Evaluation No. HC-09-051, Hope Creek Unit 1 Cycle 16 Core Reload Design Fuel Change Package, Rev. 1
50.59 Evaluation No. HC-10-125, Revise Dose Analysis Calculations and Update UFSAR to Remove 120 Second Isolation for Primary Containment Isolation Valves (PCIV), Rev. 0

10 CFR 50.59 Screened-out Evaluations
HC-08-134, Reclassification of the Station Service Water System Trash Racks, Rev. 0
HC-09-015, Revise Calculation BJ-0001 to Correct Strainer Pressure Loss, Rev. 0

HC-09-087, HC.OP-IO.ZZ-0008, Shutdown from Outside Control Room, Rev. 29
HC-09-089, Control Room Integrated Display System Computer Replacement-Phase 1, Rev. 2
HC-09-102, Replace 'A' Fuel Oil Day Tank Level Alarm Switch and Raise the Alarm Setpoint, Rev. 0
HC-09-139, Addition of Field Flash Supervisory Light in 1A (B, C, D) Emergency Diesel Generator Exciter Panels 1A (B, C, D) C420, Rev. 0
HC-10-024, Diesel Fuel Oil Sampling, Rev. 0
HC-10-032, Hope Creek ECG-RAL Technical Basis Table of Contents, Rev. 0
HC-10-049, 'D' Emergency Diesel Generator Jacket Water Keepwarm Reduced Wattage Operation, Rev. 0
HC-10-181, High Pressure Coolant Injection System Operation, Rev. 0
HC-10-188, HC.OP-SO.BJ-0001, High Pressure Coolant Injection System Operation, Rev. 4
HC-10-191, Provide Temporary Power to Inverters 1CD481 and 1CD482, Rev. 0
HC-10-207, Shutdown from Outside Control Room, Rev. 30
HC-11-001, Revise HC TS Basis 3/4.9.11, Rev. 0
HC-11-004, 4.16 kV System Operation, Rev. 2
HC-11-006, Diesel Fuel Oil Storage and Transfer System, Rev. 0
HC-11-010, CC-AA-11, Non-Conformance Use As Is - Interim – 'B' EDG Lube Oil Filters, Rev. 0

Modification Packages
80072712*, Install New Vibration Sensors to Monitor Hope Creek Control Room Supply and Control Equipment Room Supply HVAC Units, Rev. 1
80080423*, Replace 'B' Fuel Oil Day Tank Level Alarm Switch 1JELSHL-7501B and Raise the Alarm Set Point, Rev. 0
80083515, EDG Fuel Injector Cooling Water System Removal, Rev. 2
80093784*, Replacement of the 1AK400 Chiller Bearing Oil and Refrigerant Discharge Temperature Switches, Rev. 2
80095526*, Revise Calculation E-1.4 for Battery Inter-cell Resistance, Rev. 0
80097504, HPCI Main Pump and Booster Pump Tie Down Bolt Replacement, Rev. 0
80097547, SW Strainer Structural Improvements, Rev. 0
80097553, HPCI/RCIC Floor Plug Hatch Hold Down Configuration, Rev. 0
80098513*, STACS HV-2496 Closure Logic Change, Rev. 0
80101059*, Station Service Water Strainers Allowable Differential Pressure Increase, Rev. 0
80102144, Revise Calculations H-1-ZZ-MDC-1880/1923/1927 and Issue UFSAR Change HCN 10-014, Rev. 0
(* designates a Modification and 10 CFR 50.59 screen-out evaluation sample)

Calculations, Analysis, and Evaluations
623-0093, Hatch Plug Pressure, Rev. 1
6H4-4026, HPCI & RCIC to RACS Floor Plug Hold Down Bolt Replacement, Rev. 0
70024642, Battery 1A-D-411, Broken Thermometer Found in Cell Number 32, dated 10/9/02
70062868, Hope Creek 125V DC Battery Inter-cell Connection Resistance, dated 5/2/07
70074346, Extent of Condition for HPCI Pump/Motor Feet Hold Down Bolts, dated 10/26/07
70101272, EG-2496 22 Second Time Delay Basis Technical Evaluation, dated 9/18/09
70109842, HPCI Pump Elevated Vibrations Work Group Evaluation, dated 5/17/10
70118122, C SSW Strainer D/P Indication Work Group Evaluation, dated 2/24/11
80096269, EDG Fuel Injector Cooling Water System Removal Modification Acceptance Test, Rev. 0

80101132, Internal Flood Calculation 19-0018 for Room 5339 Administrative Document Change Request, Rev. 0
80101445, Revise Reactor Overfill Event Calculation BJ-0024 as a Result of EPU Administrative Document Change Request, Rev. 0
BJ-0001, NPSH for HPCI System Pump (Suction from Suppression Chamber), Revs. 5 & 6
D7.5, Hope Creek Generating Station Environmental Design Criteria, Rev. 21
E-1.4, HC Class 1E 125 & 250V DC Systems: Short Circuit and Voltage Drop Studies, Rev. 6
E-17D, HCGS 125V DC: Voltage Drop from Distribution Panel to Load, Rev. 5
E-4.2, HC Class 1E DC Equipment and Component Voltage Study, Rev. 4
E-5.1, HC Class 1E 250V DC Station Battery and Charger Sizing, Rev. 7
EA-0003, Station Service Water System Hydraulic Analysis, Rev. 10
EA-01, Station Service Water System Hydraulic Model, Rev. 5
Fairbanks Morse Seismic Qualification of Removal of Nozzle Coolant Piping, dated 2/27/07
Fairbanks Morse Un-cooled Fuel Injector Safety Analysis, dated 3/1/07
GE-NE-0000-005-3505-R4, PSEG Nuclear LLC Hope Creek Generating Station Extended Power Uprate, February 2005
GM-0027, Diesel Generator Area HVAC Analysis, Rev. 1
H-1-EA-MDC-4010, Elastic/Plastic Finite Element Analysis of Hope Creek Service Water Strainer Element, Rev. 0
H-1-ZZ-MDC-1880, Post-LOCA Exclusion Area Boundary, Low-Population Zone, and Control Room Doses, Rev. 4
H-1-ZZ-MDC-1923, Access to Areas Requiring Continuous Occupancy, Rev. 3
H-1-ZZ-MDC-1927, Vital Area Mission Doses, Rev. 2
HC-06-141, EDG Fuel Injector Cooling Water System Removal, dated 12/28/06
HC-09-01, HPCI Main Pump and Booster Pump Tie Bolt Upgrade, dated 1/20/09
HC-09-010, HPCI RCIC Floor Plug Hatch Hold Down Configuration, dated 1/26/09
JE-0013, Volume of Fuel Oil Day Tank and Level Alarm and Control Set Points, Rev. 7,
Root Cause Evaluation 70093613, Reactor Scram due to HV-2522C SACS/TACS Isolation Valve, dated 1/17/2009
SC-EG-0087-1, SACS Flow to TACS Heat Exchanger, Rev. 4
SC-GJ-0092, Nuclear Boiler Vessel Instrument-AK400 Chiller Comp. Refrigerant Discharge and Thrust Bearing Oil Temperature High, Rev. 2
SC-JE-0057, Diesel Fuel Oil Day Tank Level, Rev. 6A
SC-JE-0059, Diesel Fuel Oil Day Tank Level, Rev. 6
VTD 431173, HPCI Main & Booster Pump Replacement A325 Tie-Down Bolts, Rev. 0

Orders/Evaluations

60089428	70083013	70107200	80099080
70024642	70085260	70108262	80101059
70064814	70086733	70118122	80102291
70070358	70099497	80091396	
70074155	70099949	80097504	

Notification Reports

20069192	20203105	20336731	20364219
20072789	20224675	20362723	20369232
20098332	20266690	20362917	20372235
20098398	20301506	20364203	20375590

20388632	20470972	20506589*	20507288
20399858	20475576	20506592*	20507342
20404376	20482662	20506672*	20507433
20408245	20483121	20506673*	20507851
20409866	20491250	20506674*	20508098
20411255	20495163	20506675*	20508099
20438344	20496459	20506676*	20508184*
20441123	20503724	20506824*	20508258
20441430	20506263*	20506880*	20508398
20441997	20506316*	20506880*	20508576*
20445199	20506317*	20506945*	20508599
20451039	20506358*	20507220*	20508697*
20452757	20506593*	20507299*	20508698*
20454804	20506594*	20507301*	20508729*
20455935	20506752*	20507302*	20508737*
20456312	20506754*	20507304*	20508739*
20456851	20506861*	20507420*	20508751*
20458006	20506046*	20507520*	20509164
20460895	20506059*	20507623*	20509186*
20461199	20506195*	20506945*	20509253*
20465091	20506515*	20506952*	20509281*
20467504	20506520*	20507020	20509284*
20470663	20506553*	20507037*	20509350

(* denotes NRC identified during this inspection)

<u>Drawings</u>

01761770, Electrical Schematic, Engine Control, Sh. 4, Rev. 10
A-0531-0, Separation Criteria Reactor Building Plan, Rev. 4
A-0532-0, Separation Criteria Reactor Building Plan, Rev. 4
A-0541-0, Separation Criteria Aux Building – Control/Diesel, Rev. 6
C-0306-0, Project Civil Standards Floor Hatch Covers, Sh. 2, Rev. 4
C-0307-0, Project Civil Standards Floor Hatch Covers, Schedule-Reactor Building, Sh. 3, Rev. 5
E-0009-1, Single Line Meter & Relay Dia., 125V DC Sys., Channels A & C, Sh. 1, Rev. 24
E-0009-1, Single Line Meter & Relay Dia., 125V DC Sys., Channels B & D, Sh. 2, Rev. 28
E-0009-1, Single Line Meter & Relay Dia., 125V DC Sys., Channels C & D, Sh. 4, Rev. 13
E-0011-1, Single Line Meter & Relay Dia., 250V DC Sys., Sh. 1 & 2, Rev. 17 &18
E-0490-0, HCGS, Aux. Building, Control Area Control Equip. Rm. Supply Fans, Sh. 2, Rev. 2
E-0490-0, HCGS, Auxiliary Building and Control Area Control Rm. Supply Fans, Sh. 1, Rev. 4
I-03511, Strainer Element Assembly 28" Mod. 596 Strainer (Special), Rev. L
M-10-1, Service Water, Sh.1, Rev. 52
M-11-1, Safety Auxiliaries Cooling Reactor Building, Sh. 1, Rev. 29
M-30-1 Sh. 1, Diesel Engine Auxiliary Systems Fuel Oil, Rev. 26
M-30-1 Sh. 2, Diesel Engine Auxiliary Systems Intercooler and Injector Cooling, Jacket Water, Crankcase Vacuum, Air Intake, Exhaust, and Vibration Monitoring Systems, Rev. 20
PM018Q-0052, Intercooler & Injector Cooling System, Sh. 1, Rev. 18

PM723Q-0013, 19FA Electronic Control Diag. (Chiller 1AK400) for Nuclear Plant Duty, Rev. 14
VTD PN1-E41-C001-002, HPCI Pump Assembly, Sh. 1 & 2, Rev. 6 & 1

Procedure/Engineering Change Documents
HCN-09-009, UFSAR Change Request, dated 4/28/09
HCN-10-014 UFSAR Change Request, dated 8/19/10
OTSC # 0A, On-The-Spot-Change, HC.OP-DL.ZZ-0006-F1, HC-Auxiliary Building Log 6, dated 2/5/10
OTSC # 6A, On-The-Spot-Change, HC.OP-AR.GJ-0003, Chiller 1AK400 Control Panel 1AC490, dated 2/5/10
OTSC # 48A, On-The-Spot-Change, HC.OP-SO.GJ-0001, 1A(B)K400 Control Area Chilled Water System Operation, dated 2/5/10

Procedures
CC-AA-102, Design Input and Configuration Change Impact Screening, Rev. 17
CC-AA-102-1001, Design Inputs and Impact Screening-Implementation, Rev. 5
CC-AA-103, Configuration Change Control for Permanent Physical Plant Changes, Rev. 13
CC-AA-103-1001, Implementation of Configuration Changes, Rev. 3
CC-AA-104, Document Change Requests, Rev. 9
CC-AA-201, Plant Barrier Control Program, Rev. 1
CC-AA-309, Control of Design Analyses, Rev. 9
CC-AA-309-1001, Guidelines for Preparation and Processing Design Analyses, Rev. 5
ER-HC-321-1011, Testing of Hope Creek ASME Class 1, 2, 3 Safety/Relief Valves, Rev. 1
HC.CH-SA.ZZ-0011, Diesel Fuel Oil Sampling, Rev. 21
HC.IC-FT.JE-0002, Emergency Diesel Generator B Day Tank Level Switches, Rev. 5
HC.MD-PM.EA-0001, Service Water Strainer - Clean and Inspect, Rev. 2
HC.MD-ST.PJ-0002, 250 Volt Quarterly Surveillance, Rev. 29
HC.MD-ST.PK-0002, 125 Volt Quarterly Battery Surveillance, Rev. 37
HC.OP-AB.COOL-0001, Station Service Water, Revs. 16 & 17
HC.OP-AB.COOL-0002, Safety and Turbine Auxiliaries Cooling System, Rev. 6
HC.OP-AB.ZZ-0001, Transient Plant Conditions, Rev. 22
HC.OP-AR.KJ-0003, Diesel Generator Remote Engine Control Panel, Rev. 21
HC.OP-AR.ZZ-0001, Station Service Water system Intake C Trouble Alarm, Rev. 20
HC.OP-AR.ZZ-0024, Station Service Water System Strainer C Differential Pressure, Rev. 7
HC.OP-DL.ZZ-0006-F1, HC-Auxiliary Building Log 6, Rev. 7
HC.OP-IS.BJ-0001, HPCI Main and Booster Pump Set - OP204 and OP217 - IST, Rev. 53
HC.OP-SO.BJ-0001, High Pressure Coolant Injection System Operation, Revs. 40 and 41
HC.OP-SO.EG-001, Safety and Turbine Auxiliaries Cooling Water System Operation, Rev. 44
HC.OP-SO.GJ-0001, A(B)K400 Control Area Chilled Water System Operation, Rev. 52
HC.OP-SO.GJ-0003, Chiller 1AK400 Control Panel 1AC490, Rev.7
HC.OP-SO.JE-0001, Diesel Fuel Oil Storage and Transfer System Operation, Rev. 28
HC.OP-SO.KJ-0001, Emergency Diesel Generators Operation, Rev. 59
HC-OP-AR.KJ-0003 ANN C2, Lube Oil Keepwarm Temperature Low, Rev. 21
LS-AA-104, 50.59 Review Process, Rev. 6
LS-AA-104-1000, 50.59 Resource Manual, Rev. 5
LS-AA-104-1001, 50.59 Review Coversheet Form, Rev. 2
LS-AA-104-1002, 50.59 Applicability Review Form, Rev. 2
LS-AA-104-1003, 50.59 Screening Form, Rev. 1

LS-AA-104-1004, 50.59 Evaluation Form, Rev. 3MA-AA-716-012, Post Maintenance Testing, Rev. 16
MA-AA-734-461, Bolt Torquing and Bolting Sequence Guidelines, Rev. 1
NC.DE-TS.ZZ-4009, Station Service Water, Rev. 17
NC.EP-EP.ZZ-0202, OSC Activation and Operation, Rev. 17
NC.EP-EP.ZZ-0304, Operational Support Center Radiation Protection Response, Rev. 1
SH.MD-TI.ZZ-002, Grouting Technical Standard, Rev. 2
SM-AA-300-1001, Procurement Activities and Responsibilities, Rev. 7
SY-AA-101-109-1003, Security During Hazardous Exterior Conditions, Rev. 3
VHC.MD-ST.GK-0002, Control Room Envelope Inleakage Test, Rev. 1

<u>Work Orders</u>

30100885	30188899	50137624	60066852
30130172	30194622	50137625	60070713
30138039	30201842	50137882	60072454
30147637	30203117	50138788	60075856
30149545	30203529	50139626	60077521
30160362	30205051	50139627	60077563
30162278	50113491	50139628	60077564
30162279	50122953	50139629	60080713
30162286	50134384	50139630	60080816
30162586	50135061	50139647	60084190
30163813	50135165	50139738	60084191
30165424	50135195	50139739	60084192
30165426	50135292	50139840	60084193
30165691	50136596	50139841	60089428
30171006	50137201	50139842	60090056
30173606	50137206	50139843	60092886
30173821	50137272	50139844	60096424
30182857	50137471	50139856	60096425
30185166	50137580	60056494	60096426
30186520	50137593	60062762	60096427
30187656	50137594	60066851	

<u>Vendor Manuals</u>
315177, Pottor & Brumfield Auxiliary Relay Equipment Qualification Report, Rev. 3
327152, EDG Fuel Oil Level Switch Seismic Qualification Report, 12/2/04
431108, Control Building Chillers, Seismic Qualification Report for Thermowell Part # 1S260L10316 and Temperature Sensor Part # RTP775731L10X24, Rev. 2
431207, Custom Level Switch Assemblies, 4/2/09
80083515 R1 ADM024 R0, Update VTD PM018Q-0499 Fuel Injector Cooling Deletion, dated 3/1/07
VTD 301835, The Drillco Maxi-Bolt, dated 3/18/05
VTD 322960, Service Water/Strainer Element, dated 4/7/11
VTD PM076Q-0042, Service Water: Shop Detail for Strainer Shoe, dated 4/4/04
VTD 431743, Strainer Element Assembly 87727-002 Final Element Analysis and Technical Calculation, dated June 2009

Audits and Self-Assessments
30201132, Quarterly Configuration Control Audit, dated 2/2/11
30203529, Quarterly Configuration Control Audit, dated 5/6/11
70083142, Procedure Adherence for Configuration Control Program Self-Assessment, dated 5/19/08
70083404, Core Reload and Cycle Management Configuration Changes Using SAP NF-AA-100-1001 Self-Assessment, dated 9/23/08
Check-In Self Assessment of the Hope Creek Setpoint Control Program, dated 6/30/08
70114320, Focused Area Self-Assessment, Evaluation of Changes, Tests, or Experiments and Permanent Plant Modifications, Rev. 1

Miscellaneous
105431-003, 1EGPSV-2409C Safety Relief Valve Report Form, dated 2/1/06
10CFR50.65 (a)(3) Periodic Assessment for Hope Creek Generating Station, 2/1/09 - 8/31/10
125V DC (Class 1E) System Report, Q1- 2011 & Q4-2010
250V DC (Class 1E) HPCI/RCIC System Report, Q1-2011 & Q4-2010
30185109, 12M 1A-F-509 SWIS Strainer Inspection, performed 12/2/10
30186526, 12M 1B-F-509 SWIS Strainer Inspection, performed 11/24/10
B Emergency Diesel Operational Monitoring Report, dated 2/16/11
BJ-HPCI System Report, Q1-2011
Civil Engineering Studies Structural Research Series No. 353, Behavior of Bolts in Tee Connections Subject to Prying Action, September 1969
Control Room Chilled Water System Report, Q1- 2011 & Q4-2010
Control Room HVAC System Report, Q1- 2011 & Q4-2010
DCR-80095038, Hope Creek Unit 1 Cycle 16 Core Reload Design Fuel Change Package, Rev. 1
DCR-80095444, Increase the Calibrated Range for SSW Pressure Diff. Transmitters, Rev. 1
Diesel Generators Walkdown Report, dated 11/22/10 & 2/3/11
Diesel Generators System Report, Q3-2010 & Q4-2010
EA-Service Water System Report, Q1-2011
ER-HC-310-1009, Maintenance Rule System Function and Risk Significant Guide, Rev. 6
Guide to Design Criteria for Bolted and Riveted Joints, John W. Fisher, Fritz Engineering Laboratory, 1974
H-1-ZZ-FEE-1803, Separation Barrier Control Aid for Hope Creek, Rev. 0H-2009-045, Simulator Action Request, dated 5/12/09
HCG.5-0090, GEH Report TRACG04P DIVOM 10 CFR 50.59 Evaluation Basis, Rev. 0
HPCI Pump Vibration Trend (OP-IS.BJ.001), dated 6/7/07 - 4/13/11
KJ-Diesel Generators System Report, Q1-2011
NEI 96-07, Guidelines for 10 CFR 50.59 Implementation, Rev. 1
NOH04STACS0, Hope Creek Licensed/Non-Licensed Operator Training-Safety and Turbine Auxiliaries Cooling System, Rev. 7
NRC Regulatory Guide 1.183, Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Plants, dated July 2000
NRC Regulatory Guide 1.187, Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments, dated November 2000
NRC Regulatory Guide 1.26, Quality Group Classifications and Standards for Water, Steam, and Radioactive Waste Containing Components of Nuclear Power Plants, dated March 2007

Service Water System Strainer Differential Pressure Trending Data, dated 1/1/11 to 5/2/11 & 1/1/09 to 1/110
Service Water Walkdown Report, dated 11/18/10 & 2/28/11
SN N611183-01-0015, Receipt Inspection Report, dated 11/30/04
Technical Specifications, Hope Creek Generating Station, Amendment 185
UFSAR, Hope Creek Generating Station, Rev. 17

Completed Surveillance & Functional Tests
60077521 Operation 0065, VT-2 Visual Examination, performed 4/20/09
HC.OP-FT.EA-0001, Validating SSWS Flow Through SACS HXs, performed 3/30/11
HC.OP-IS.BJ-0001, HPCI Main and Booster Pump Set - OP204 and OP217 - Inservice Test, performed 2/24/09 and 5/4/09
HC.OP-IS.EA-0001, A Service Water Pump - AP502 - Inservice Test, performed 10/5/09 and 4/9/11
HC.OP-ST.KJ-0002, Emergency Diesel Generator 1BG400 Operability Test - Monthly, performed 2/16/11, 3/15/11, and 4/19/11
HC.OP-ST.KJ-0015, EDG 1BG400 – 24 Hour Operability Run and Hot Restart Test – performed 10/16/08 and 4/14/10
HC.IC-SC.EG-0007, Safety Auxiliaries Cooling Channel LT-2508D Expansion Tank BT-205 Level, performed 3/11/10
HC.IC-DC.ZZ-0074, Baily Single and Dual Alarms, Type 745, Style 1/2, performed 3/11/10
LAT 3427, Control Room Envelope Inleakage Testing at HCGS Final Report, performed 12/28/09

Design & Licensing Bases
Design Criteria 10855-D7.3, Procedure for Documentation and Criteria of Plant Separation for the Hope Creek Generating Station, Rev. 4
HCG.5-0081, Nuclear Fuels BWR Design and Analysis Design Input, Documentation of Compliance with NRC SER Conditions and Limitations for the Application of WCAP-15942-P-A (Formerly CENP-287), Fuel Assembly Mechanical Design Methodology for Boiling Water Reactors Supplement 1 to CENP-287, dated 9/2/08
NUREG/CR-0660, Enhancement of On-Site EDG Reliability, February 1979
NUREG-0800, Standard Review Plan, Rev. 3
Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 184 to Facility Operating License No. NPF-57 Hope Creek Generating Station, dated 10/07/10
Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 163 to Facility Operating License No. NPF-57 Hope Creek Generating Station, dated 2/08/06
Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Amendment No. 166 to Facility Operating License No. NPF-57 Hope Creek Generating Station, dated 4/7/06
Specification No. 10855 M-076, Design Specification Service Water Self Cleaning Strainers for the Hope Creek Generating Station, Rev. 9

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AISC	American Institute of Steel Construction
ASTM	American Society for Testing and Materials
CERS	Control Equipment Room Supply
CFR	Code of Federal Regulations
CRS	Control Room Supply
DCR	Document Change Request
DP	Differential Pressure
DRS	Division of Reactor Safety
EDG	Emergency Diesel Generator
FODT	Fuel Oil Day Tank
HCGS	Hope Creek Generating Station
HPCI	High Pressure Coolant Injection
HVAC	Heating, Ventilation and Air Conditioning
IP	Inspection Procedure
LOCA	Loss-of-Coolant Accident
NEI	Nuclear Energy Institute
NOTF	Notification
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PM	Preventive Maintenance
PMT	Post Maintenance Test
PSEG	Public Service Enterprise Group Nuclear LLC
RCIC	Reactor Core Isolation Cooling
SSC	Structures, Systems, and Components
STACS	Safety and Turbine Auxiliaries Cooling System
SW	Service Water
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report